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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,897	12/18/2001	Ulrich Holeschovsky	Mo6805/MD-99-88-PU	2174

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EXAMINER	
HARAN, JOHN T	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	10/028,897	HOLESCHOVSKY ET AL.	
	Examiner	Art Unit	
	John T. Haran	1733	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 13 September 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☒ Applicant's reply has overcome the following rejection(s): none - see attached discussion.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☐ The a)☐ affidavit, b)☐ exhibit, or c)☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *15-18,20-25 and 27-30*.

   Claim(s) withdrawn from consideration: *1-14*.

8. ☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

DETAILED ACTION

In response to the after final amendment of placing dependent claim limitations into the independent claims, the final rejections of the claims have been restated below incorporating the changes made by the after final amendment. This is a restatement of the rejections and not a new ground of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 15-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irwin (U.S. Patent 5,612,113) in view of Langsdorf et al (U.S. Patent 6,299,715) and Nohr et al (U.S. Patent 5,578,369) and optionally taken with Takizawa et al (U.S. Patent 6,299,714), Strobel et al (U.S. Patent 5,244,780), Hinterwladner et al (U.S. Patent 5,070,121), and Gastiger et al (U.S. Patent 5,527,629).

Irwin is directed to a method of making a carpet wherein a primary backing with fibers tufted into it (greige good) is coated on its back surface with a precoat such as polyurethane adhesive and a flexible film, such as polypropylene (a polyolefin), that has been corona treated in order to enhance the adhesive properties of the film, is contacted to the back surface of the precoat (Column 4, lines 15-41 and Column 2, lines 46-56).

Irwin is silent towards the power density of the corona discharge applied to the film. It is notoriously well known and conventional that corona discharge treating a surface increases its adhesive properties (improves adherence by increasing the wettability of the film) as shown for example in Strobel et al (Column 1, lines 6-10), Takizawa et al (Column 2, lines 19-27), Hinterwaldner et al (Column 23, lines 53-60), Gastiger et al (Column 1, lines 15-17), or Nohr et al (Column 6, lines 33-45). Additionally it is known in the art that corona discharge increases the adhesion properties and wettability of polyolefins, as shown in Gastiger et al (Column 1, lines 15-17) and Nohr (Column 6, lines 33-45). Furthermore it is known in the art to increase the adhesion properties of polyolefin films, such as polypropylene, to adhesives by treating the polyolefin film with corona discharge with a power density between 2 and 10 kW/m2 (0.2 to 1.0 W/cm2) by increasing its wettability resulting in increase adherence as shown in Nohr (Column 6, lines 33-45; Column 3, lines 42-43). Additionally one skilled in the art would have readily appreciated that the power density would depend upon a variety of factors such as the material of the film, the material is to be bonded with, etc. It would have been within the purview of one skilled in the art to determine the optimum power density for achieving the desired adhesion of the film to the precoat keeping these factors in mind and only the expected results would be achieved. It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the applicable power density range for the corona discharge in order to achieve the desired adhesion of the film to the precoat in the method of Irwin and as suggested in Nohr et al.

Irwin is also silent towards curing the polyurethane adhesive precoat and towards using a reactive polyurethane system. One skilled in the art would have readily appreciated that the precoat would not be fully cured until after the treated flexible film is applied in order to ensure adequate adhesion. Furthermore it is known in the carpet art to apply polyurethane adhesive to a primary carpet backing and fully cure the adhesive after a flexible polypropylene film has been applied, as shown in Langsdorf et al (Column 1, lines 11-14; Column 4, lines 36-61) and to it is conventional in the carpet art to use reactive polyurethane systems as precoats, as shown for example in Langsdorf et al (Column 5, line 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made not to fully cure the precoat until after the flexible film, which has been treated with corona discharge within the optimum power density range, has been applied in the method of Irwin and to use a reactive polyurethane system as the precoat, as suggested by Langsdorf et al.

Regarding claim 16, Langsdorf et al teaches applying multiple layers for the precoat and that they can be foams (Column 10, lines 32-43) and as noted above they are not fully cured until after the flexible film has been applied. It would have been obvious to use a known combination of adhesive and foam to apply to a greige good before applying a flexible film in the method of Irwin, as modified above.

Regarding claim 17, Irwin teaches adhering a foam layer to the back surface of the corona treated flexible film (Column 4, lines 39-41).

Regarding claim 18, one skilled in the art would have readily appreciated that the curing temperature and duration would depend upon a variety of factors such as the

material worked upon, the thickness of the adhesive, the intensity of the curing source, etc. It would have been within the purview of one skilled in the art to determine the parameters for achieving an adequate adherence and to determine the optimum parameters. It would have been obvious to determine the optimum parameters.

Regarding claims 20 and 21, it is well known and conventional in the carpet art to have foams that comprise reactive polyurethane systems, as shown for example in Langsdorf et al (Column 5, line 36). It would have been obvious to use known materials for the foam in the method of Irwin, as modified above.

Regarding claim 22, Irwin teaches using polyolefin films such as polypropylene or polyethylene (Column 2, lines 46-48).

Regarding claim 23, Irwin teaches using a flexible film with a thickness between 1 and 5 mils (.025 to .127 mm).

Regarding claim 24, as noted above it would have been obvious to one of ordinary skill in the art to determine the applicable power density range for the corona discharge and to determine the optimum range.

4. Claims 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langsdorf et al (U.S. Patent 6,299,715) in view of Irwin (U.S. Patent 5,612,113) and Nohr et al (U.S. Patent 5,578,369) and optionally taken with Takizawa et al (U.S. Patent 6,299,714), Strobel et al (U.S. Patent 5,244,780), Hinterwladner et al (U.S. Patent 5,070,121), and Gastiger et al (U.S. Patent 5,527,629).

Langsdorf et al teach a method of making a carpet wherein the back surface of a greige good is coated with a precoat adhesive and that the adhesive can be a foamable system such as a reactive polyurethane system (Column 10, lines 24-29; line 57). A secondary backing in the form of a flexible film such as polypropylene is applied to the foam layer on the greige good and the reactive polyurethane foam layer is fully cured to form a bonded article (Column 1, lines 11-14; Column 4, lines 36-61). Langsdorf et al is silent towards corona treating the flexible polypropylene film within the claimed power density range prior to applying the film to the greige good.

Irwin is directed to a method of making a carpet wherein a primary backing with fibers tufted into it (greige good) is coated on its back surface with a precoat such as polyurethane adhesive and a flexible film, such as polypropylene, that has been corona treated in order to enhance the adhesive properties of the film, is contacted to the back surface of the precoat (Column 4, lines 15-41 and Column 2, lines 46-56).

One skilled in the art would have readily recognized in the carpet art it is desirable for such flexible films to remain adequately adhered to the greige good and it would have been obvious to take known steps to ensure adequate adhesion of the flexible polypropylene film to the foam layer in the method of Langsdorf et al, such as corona treating the film prior to application as suggested in Irwin. It is notoriously well known and conventional that corona discharge treating a surface increases its adhesive properties (improves adherence by increasing the wettability of the film) as shown for example in Strobel et al (Column 1, lines 6-10), Takizawa et al (Column 2, lines 19-27), Hinterwaldner et al (Column 23, lines 53-60), Gastiger et al (Column 1, lines 15-17), or

Nohr et al (Column 6, lines 33-45). Additionally it is known in the art that corona discharge increases the adhesion properties and wettability of polyolefins, as shown in Gastiger et al (Column 1, lines 15-17) and Nohr (Column 6, lines 33-45). Furthermore it is known in the art to increase the adhesion properties of polyolefin films, such as polypropylene, to adhesives by treating the polyolefin film with corona discharge with a power density between 2 and 10 kW/m2 (0.2 to 1.0 W/cm2) by increasing its wettability resulting in increase adherence as shown in Nohr (Column 6, lines 33-45; Column 3, lines 42-43). Additionally, one skilled in the art would have readily appreciated that the power density would depend upon a variety of factors such as the material of the film, the material is to be bonded with, etc. It would have been within the purview of one skilled in the art to determine the optimum power density for achieving the desired adhesion of the film to the precoat keeping these factors in mind and only the expected results would be achieved. It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the flexible polypropylene with corona discharge in order to enhance its adhesive properties (increase adherence by increasing the wettability of the film) in the method of Langsdorf et al as suggested in Irwin and to determine the applicable power density range for the corona discharge in order to achieve the desired adhesion of the film to the reactive polyurethane foam, as suggested in Nohr et al.

Regarding claim 27, one skilled in the art would have readily appreciated that the curing temperature and duration would depend upon a variety of factors such as the material worked upon, the thickness of the adhesive, the intensity of the curing source,

etc. It would have been within the purview of one skilled in the art to determine the parameters for achieving an adequate adherence and to determine the optimum parameters. It would have been obvious to determine the optimum parameters.

Regarding claim 28, Langsdorf et al teaches the flexible film is polypropylene, which is a polyolefin.

Regarding claim 29, Irwin teaches using a flexible film with a thickness between 1 and 5 mils (.025 to .127 mm) and it would have been obvious to apply flexible films of known thickness in the method of Langsdorf et al, as modified above.

Regarding claim 30, as noted above it would have been obvious to one of ordinary skill in the art to determine the applicable power density range for the corona discharge and to determine the optimum range.

Response to Arguments

Applicants' arguments filed 9/13/04 have been fully considered but they are not persuasive.

As a preliminary matter, it is noted that the benefit of the present invention, as argued by applicant, is that it enables the production of tufted goods that are dimensionally stable and do not require a secondary backing. Throughout the remarks, Applicants argue that the references do not teach or suggest this benefit. However, the claims do not exclude having a secondary backing or recite a limitation of increased dimensional stability and no unexpected results or other secondary considerations have been provided to overcome the rejections.

Finality of the Office Action dated 7/7/04

Applicants argue the finality of the office action dated 7/7/04 was improper because 4 references were additionally cited. The 4 references were optionally cited to further support that which was taken as notoriously well known and conventional, despite Applicant's assertion to the contrary, in accordance with MPEP 2144.03. The references were added as a result of arguments made by Applicants traversing that taken as well known and conventional. Accordingly the finality was proper and is maintained.

103 Obviousness Rejection of Claims 15-18 and 20-24

Applicants argue that the polypropylene substrate referred to in Langsdorf as a secondary backing is not a flexible film. It is unclear what the distinction is between a secondary backing and a flexible film. It appears from the specification that they can be one and the same. The specification describes the flexible film as a polyolefin sheet (page 3, line 14) including polypropylene (page 7, line 16). The polypropylene substrate of Langsdorf is a sheet and it is clearly flexible since it is provided wound up in a supply roll (Column 3, lines 44-45). The polypropylene substrate in Langsdorf meets the requirements of being a flexible film.

In any event, whether or not the polypropylene substrate is a flexible film is immaterial to the rejection. Langsdorf is relied upon for teaching that it is known in the carpet art to apply polyurethane adhesive to a primary carpet backing and fully cure the

adhesive after a polypropylene substrate has been applied (Column 1, lines 11-14; Column 4, lines 36-61). There is sufficient motivation to follow the same procedure in the method of Irwin and it would be obvious to do so since both are directed to adhering a polypropylene substrate to a primary carpet backing precoated with polyurethane adhesive.

Applicants argue that the Nohr reference teaches it is essential that the adhesive be cured in a specific manner and therefore does not suggest the claimed invention. The means for curing the adhesive in the Nohr reference is irrelevant. Nohr is relied upon as an example that it is well known and conventional to apply corona discharge to a surface to increase its wettability and therefore its strength of adherence to adhesives. In addition Nohr is relied upon for its teaching that such a corona discharge application has the desired effect on polypropylene surfaces and teaches using a power density within the claimed range to achieve these desired effects. There is sufficient motivation to apply corona discharge to the polypropylene film of Irwin in order to increase its wettability and therefore its strength of adhesion to the polyurethane adhesive at the claimed power density.

It is clearly evident that Applicant misunderstands the rejection of the claims in light of the arguments made at the top of page 11 as to what one skilled in the art would expect when combining the teachings of Irwin, Langsdorf, and Nohr. The "supposed results" are not suggested. The combination does not suggest using the teachings of Langsdorf to apply polyurethane adhesive to a secondary backing, rather as noted above the teachings of Langsdorf suggest curing the polyurethane adhesive precoated

on the primary backing once the corona discharge treated flexible polypropylene film is applied in the method of Irwin. The combination does not suggest replacing the polyurethane precoat with the adhesive composition of Nohr and exposing the adhesive composition of Nohr to incoherent UV radiation, rather as noted above the teachings of Nohr suggest applying corona discharge to the polypropylene film of Irwin in order to increase its wettability and therefore its strength of adhesion to the polyurethane adhesive at the claimed power density.

The four optionally cited references are relied upon merely as evidence that it is notoriously well known and conventional corona discharge treating a surface increases its adhesive properties (improves adherence by increasing the wettability of the film). Hence, Applicants' discussion of the particulars of each reference is not considered pertinent because such is not relied upon in the rejection of the claims.

103 Obviousness Rejection of Claims 15-18 and 20-24

Applicants argue that the polypropylene substrate referred to in Langsdorf as a secondary backing is not a flexible film. It is unclear what the distinction is between a secondary backing and a flexible film. It appears from the specification that they can be one and the same. The specification describes the flexible film as a polyolefin sheet (page 3, line 14) including polypropylene (page 7, line 16). The polypropylene substrate of Langsdorf is a sheet and it is clearly flexible since it is provided wound up in a supply roll (Column 3, lines 44-45). The polypropylene substrate in Langsdorf meets the requirements of being a flexible film.

It is clearly evident that Applicant misunderstands the rejection of the claims in light of the arguments made at the bottom of page 15 as to what one skilled in the art would expect when combining the teachings of Langsdorf, Irwin, and Nohr. It is first noted that Langsdorf teaches a griege good with a back surface precoated with a reactive polyurethane foam that is adhered to a flexible polypropylene substrate (referred to as "secondary backing" in reference) and that the polypropylene substrate can be free of skipcoat (Column 1, lines 11-14; Column 4, lines 43-44; Column 10, lines 24-29 and 57). Irwin teaches corona treating a flexible polypropylene film to increase the wettability of the surface and hence the adhesive strength to a polyurethane adhesive as is well known and conventional as shown in Nohr. Applicant appears to argue that such a combination requires adding the flexible polypropylene film of Irwin into the laminate so that there are two polypropylene films, however such is not the case. There is sufficient motivation to corona treat the flexible polypropylene substrate of Langsdorf in order to increase the wettability of the surface and hence the adhesive strength the reactive polyurethane foam adhesive in the method of Langsdorf.

The remainder of the arguments is merely repeated arguments made in the discussion of the rejection of the first set of claims and are sufficiently addressed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John T. Haran** whose telephone number is **(571) 272-1217**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John T. Haran
Examiner
Art Unit 1733